

PUBLIC SUBMISSION

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Docket: NRC-2015-0057

Linear No-Threshold Model and Standards for Protection Against Radiation

Comment On: NRC-2015-0057-0010

Linear No-Threshold Model and Standards for Protection Against Radiation; Notice of Docketing and Request for Comment

Document: NRC-2015-0057-DRAFT-0153

Comment on FR Doc # 2015-15441

Submitter Information

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General Comment

PRM 20-30 states that Dr. Mohan Doss is acting on behalf of SARI and "supports and supplements" PRM 20-28 submitted by Dr. Carol Marcus. It should be noted that Doss, Marcus and Mr. Mark Miller (who submitted PRM 20-29) are all members of SARI.

The additional reference material submitted by Dr. Marcus was authored by other SARI members.

LNT is not a hypothesis. It's an explanation which ties together many tested hypotheses. It's a scientific theory. Those who feel compelled to attack a scientific theory (evolution, anthropogenic global warming, LNT, etc.) will often attempt to denigrate it by referring to the theory as a "hypothesis".

Scientific theories cannot be proven true, but they must be falsifiable. Since scientific theories cannot be proven to be true, they are frequently subject to attack by those with non-scientific agendas. For example, the scientific theory of evolution is supported by many tested hypotheses, but is constantly under attack by some who feel the theory threatens aspects of their religious beliefs.

The theory of LNT was strongly attacked in the late 20th century, when it was unclear what the primary carcinogenic components of cigarettes were. In addition to possible chemical carcinogens, tobacco was known to include naturally occurring radioactive isotopes. It was also recognized that naturally occurring radon progeny could attach to smoke particles and be inhaled deeply into the lung. Regulation of second hand smoke was particularly threatening to the cigarette industry.

The Tobacco Institute (TI), a trade group representing cigarette manufacturers, funded a small

group of people with science degrees to manufacture and disseminate misinformation in order to slow regulation of cigarettes and second hand smoke.

One beneficiary of TI funding was the late T.D. Luckey, who proposed that radiation was beneficial. He called this process "hormesis". In promoting his propaganda he actually employed the pseudo-science of homeopathy as being supportive: <http://giriweb.com/luckey.htm>.

Ultimately, science prevailed and the TI disbanded. However, it was widely recognized by some Libertarians that the TI's tactics had been very effective at creating public confusion and slowing the regulatory process.

T.D. Luckey went on to start the International Hormesis Society with another former TI funding beneficiary Edward Calabrese.

The talking points of the petitions contained within this docket are essentially a resurrection of the propaganda originally manufactured by Luckey and others and perpetuated by Calabrese.

It should be noted that Calabrese is an "expert" with the Libertarian Cato Institute, which was originally called the Charles Koch Foundation (one of the Koch Brothers), and it exists to manufacture and disseminate anti-regulation propaganda.

The SARI petitioners are attempting to short-cut the rigors of science with their petitions, a fallacy known as special pleading. Though the petitioners appear to have scientific credentials, they are conveniently bypassing the scientific process and are engaging in rhetorical tactics (letters, petitions, and website). The SARI petitioners should have learned at the high school science level, that a scientist must produce evidence (hypothesis testing) which is accepted by the scientific community in order to overturn a scientific theory. The petitioners are free to publish their evidence to contradict the theory in the peer reviewed scientific literature. Should any of the authorized scientific consensus bodies change their conclusions based on this new evidence, the U.S. NRC would be compelled to consider revising its regulations.

However, modern scientific consensus bodies with the legal authority to draw conclusions on radiation effects are all unanimous in regards to LNT. Since LNT is the scientific consensus theory, the U.S. NRC has NO choice but to implement regulations based on that accepted theory.

One of the most ardent efforts to disprove LNT was undertaken by the U.S. DoE Low Dose Radiation Research Program. After spending a decade and over \$200 million, they failed to find any evidence to contradict LNT.

The petitioners make unsubstantiated claims regarding LNT leading to the irrational fear of radiation. We don't determine our science based on its consequences - that would be logically fallacious. Scientific rigor comes first, and then we try to understand and manage the consequences.

It is a LACK of understanding of LNT, which leads to irrational fear. The predictions of LNT are that even after relatively large radiation doses, the increase in expected cancer incidence (which will be mostly realized decades in the future) is very small.

(A longer email comment has also been sent)